

In the Specification:

Amend the paragraph on Page 7, line 3 as follows:

Figure 1A is a schematic of a converter utilizing the power transfer methodology of the invention.

Amend the paragraph on Page 7, line 4 as follows:

Figure 1B is a timing diagram of the circuit of Figure 1A.

Amend the paragraph beginning at line 19 of Page 20 as follows:

In Figure 1A is depicted a circuit wherein the embodiment of ~~claim~~ Figure 4A is combined with the circuit described in Figure 8A. There is an additional circuit formed by an inductor element 440 and a capacitor 442[.]. The additional circuit creates a triangular current waveform which is superimposed on the currents through M1 and M2. In Figure 1B is presented the timing diagrams of the key waveforms of the circuit illustrated in Figure 1A. The control signals VcM1, VcM2, VcM3, and VcM4 are produced by a source controller 399 and are applied to the transistors M1, M2, M3, and M4, respectively as shown in Figure 1A.

The control signals for M1 and M2 are presented on 914. The control signal for M3 and M4 is presented on 916. The triangular shaped additional current 922 flowing through 440 and 442 are presented on 918. The current 924 flowing through M1 is the result of the superposition of the 922

and the current reflected from the secondary of the transformer. The presence of 918 allows zero voltage switching conditions for M1 and M2. The additional current 922 will add to the magnetizing current of transformer T2 and discharge the parasitic capacitance of M1 and M2 prior the switchers M1 and M2 are turned ON. The magnitude of 922 is controlled by the size of 440. A lower inductance of 440 will increase the additional current 922. This will ensure the zero voltage switching conditions for M1 and M2. The switchers M3 and M4 have an inherent zero voltage switching characteristics. If zero voltage switching has to be reached even at zero phase shift on both section of the full bridge, a similar circuit formed of an inductor in series with a capacitor can be inserted between the GND and the M3 and M4 at the node where the transformer T2 is inserted. The voltage across the 442 and the additional capacitor is the same and equal to $V_{in}/2$. As a result the circuit can be simplified by connecting only one inductor with center tap across the primary winding 110. The center tap of the additional inductor can be further connected to a capacitor which has the second termination connected to the GND. The capacitor 442 can also be formed by two capacitors in series one connected to the positive end of the V_{in} and the second capacitor connected to the negative end of 130. The common node of these capacitors is connected at 440.

In Figure 13A is presented the combination of the circuit presented in Figure 4A and the full bridge phase shifted circuit depicted in Figure 8A. The circuit presents another embodiment of the invention wherein the inductor element L_r 48 is transferred in the primary of the transformer T2. The mode of operation is similar with the circuit wherein the inductor element L_r is located in the secondary of the transformer. One advantage of this circuit is the fact that the current flowing through L_r will help to achieve zero voltage switching conditions for the primary switchers 92, 96, 94 and 160, with the penalty of an increase in the flux density in the transformer's core 108.